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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/054,206 | 01/22/2002 | Hans Thomas Rossby | 5977 | 4669 |

7590 01/30/2004

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| EXAMINER |
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LOBO, IAN J

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| ART UNIT | PAPER NUMBER |
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3662

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/054,206

Applicant(s)

ROSSBY ET AL.

Examiner

Ian J. Lobo

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-21, 24-26 and 33 is/are rejected.
- 7) ☒ Claim(s) 22,23 and 27-32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 18, 19, 20, 21, 24, 25, 26 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Massa, Jr. ('220) when taken in view of Massa ('827) and Piquette ('439, '741)

The patent to Massa, Jr. discloses an underwater sound source. The source includes a housing (11) that inherently has a length along the longitudinal axis. The length of the housing further is perpendicular to a plane that bisects the housing (see col. 3, lines 28-31). The housing further has an inner and outer surface adapted to receive fluid therein. The source includes a driver (12) positioned within a plane that bisects the housing.

There appear to be two differences between claims 18 and 33 and the Massa, Jr. patent. The first difference is the claim specifies a monopole driver, to which Massa Jr. is silent, and the second difference is the driver is suspended within the housing, to which Massa, Jr. is again silent.

With respect to the aforementioned second difference, the patent to Massa teaches flexibly suspending the transducer (12) of Massa, Jr. within the housing. Such

a mounting or suspension of the transducer permits improved cooling of the transducer, especially during high power underwater operations.

With respect to the first difference, the Piquette patents each teach underwater sound projectors that include a driver which comprises a push-pull configuration or a monopole driver. Such a push-pull configuration is taught by Piquette to produce cancellation of nonlinear responses and the provision of a linear acoustic output for the low frequency underwater source.

Thus, in view of Piquette, it would have been obvious to one of ordinary skill in the art at the time of the invention, to substitute the driver of Piquette for the driver (12) of Massa, Jr. Claims 18 and 33 are so rejected.

Claims 19, 20 and 26 are rejected as an obvious design choice of the low frequency output and electro-acoustic conversion efficiency, respectively, of Massa, Jr.

Claim 21 is disclosed by Massa, Jr (see Fig. 1).

Claims 24 and 25 are further obvious over Massa, Jr. since the underwater cable (33) is connected to an "electronics section" on the outside of the housing.


Allowable Subject Matter

3. Claims 22, 23 and 27-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian J. Lobo whose telephone number is (703) 306-4161. The examiner can normally be reached on Monday - Friday, 6:30 - 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on (703) 306-4171. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-4180.


Ian J. Lobo
Primary Examiner
Art Unit 3662
